

3 April 1986

New CIA Calculations Cast Doubt On Test Ban Violations by Soviets

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The Central Intelligence Agency has revised its calculations of Soviet underground nuclear tests in a way that adds new uncertainty to U.S. charges that Moscow probably violated a 1974 arms control agreement, administration officials said yesterday.

The changes in U.S. measurements of Soviet nuclear tests are a result of advances in seismology and improvements in assessing the differences in geology between U.S. test sites and those of the Soviet Union, an official said. Beyond the dense technicalities involved, the issue has major political repercussions in view of sharply contested administration charges of Soviet cheating on nuclear test limits and other obligations.

Some officials said yesterday that even under the new calculations it is likely that several Soviet tests have gone over the limit of 150 kilotons accepted in the 1974 Threshold Test Ban Treaty. Other officials said there was already doubt among government and non-government scientists that the Soviets violated the limits and that the CIA adjustment makes it even harder to draw such a conclusion.

The 1974 treaty, concluded by the Nixon administration, has never been ratified by the United States. As with other unratified agreements, both sides have accepted an obligation not to undercut it.

Officials of several U.S. agencies said the CIA revision, which took effect in January, resulted from recommendations last fall of separate scientific panels on Soviet test measurements under the sponsorship of two Defense Department organizations, the Advanced Research Projects Agency and the Air Force Technical Applications Center.

The change also followed the recommendations last December by an interagency panel, the Joint Atomic Energy Intelligence Committee, to alter previous U.S. formulas for calculating the size of Soviet tests. Defense officials said the key vote in

this panel was 5 to 3, with the Defense Intelligence Agency and two other agencies dissenting.

White House spokesman Larry Speakes said in Santa Barbara, following the first report of the change in yesterday's New York Times. "We haven't changed our method for estimating yields of Soviet tests. As a part of the verification process, we are constantly refining our techniques to improve our understanding of Soviet testing activities."

Other officials explained that while the "method" of estimation has not changed, the mathematical multipliers by which that method is applied have been changed at the order of CIA Director William J.

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Casey. The result is to lower the "central value" or main estimate of various Soviet tests as measured from afar by the United States by an average of about 20 percent.

The margin for error in such calculations remains large, however. If the "central value" of a Soviet test is 200 kilotons (the equivalent of 200,000 tons of TNT), the accepted margin for error would permit the test to be judged as low as 100 kilotons or as high as 400 kilotons, officials said.

Uncertainty about the power of nuclear explosions and the ways of measuring them was so great, even at the time the treaty was signed, that both sides agreed to allow one or two unintentional breaches per year of the 150-kiloton limit.

Assistant Defense Secretary Richard N. Perle said that 10 or 11 Soviet underground tests previously estimated to have exceeded the agreed U.S.-Soviet limit of 150 kilotons would be reduced to six or

seven under the mathematics of the new directive.

While fewer tests turn out to be violations under the new calculations, Perle said, there should be greater confidence that those remaining were actually above the agreed limits.

Kenneth L. Adelman, director of the Arms Control and Disarmament Agency, said the report to Congress that "a number of [Soviet] tests constitute a likely violation" of the limit remains valid. Adelman said "the level of uncertainty" about the measurements remains very high, which is why the administration is asking the Soviets to accept on-site inspection and other improvements in verification.

Rep. Thomas J. Downey (D-N.Y.), an advocate of nuclear disarmament, said, "There is ample reason to believe that the Soviet Union has not violated the 150-kiloton limit" based on the newly approved factors. "My understanding is that there are three reports by panels of scientists that suggest the United States has grossly overestimated the yield of Soviet explosions in the past."

The new U.S. calculations will be employed when the Soviet Union resumes underground nuclear tests, after abstaining since last August. Soviet leader Mikhail Gorbachev said last Saturday that tests will begin following the next U.S. underground test, which is expected to take place next week.

The Times report said President Reagan signed a directive ordering a report on how the new calculations would reflect on past U.S. charges of Soviet violations.

The debate over U.S. estimation of Soviet nuclear tests has led to antagonism between scientists, especially seismologists, and the Reagan administration. Seismologists have accused administration officials of subordinating technical judgments to political ideology in attacks on the Soviets for nuclear testing, while administration officials have accused seismologists of being willing and even eager to accept the most comfortable assumptions about Soviet activity in the nuclear field.